



Central Intelligence Agency
Office of the Deputy Director for Intelligence

18 July 1986

NOTE FOR:

[Redacted box]

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The DCI gave this to me and asked
that I pass it on to you for your
information and, if you can see anything
actionable here, for part of your program.
If we can help, let me know.

[Redacted box]

Richard J. Kerr
Deputy Director for Intelligence

Attachment:
As stated

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**United States
Information
Agency**

Office of the Director

JUL 09 1986

Washington, D.C. 20547

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Dear Bill:

I wanted to let you know about an exciting new initiative the USIA has undertaken to bring a more accurate picture of the United States to the citizens of Eastern Europe and the Soviet Union. Since October of last year, we have been broadcasting our two-hour-a-day satellite television service to Europe, ~~WORLDNET~~, to Eastern Europe via the East Spot Beam of the ECS-1F2 satellite. Transmissions from this satellite can be seen by anyone in Eastern Europe and in the Western portion of the USSR who has access to the necessary receiving equipment.

When we started these broadcasts, we had only sketchy information about the availability of satellite antennae systems behind the Iron Curtain, but we were convinced that, once the service became known, *that many* information-starved citizens of the Eastern Bloc would find a way to acquire the equipment they needed. Earlier this year, I directed the Voice of America to begin broadcasting promotional announcements about ~~WORLDNET~~ on the ~~various~~ East European language services to stimulate further interest in the program. In a short span of time, hundreds of letters were received by the VOA, asking for more information.

Interestingly, many of the letters asked for more details about how to actually build equipment necessary to receive satellite broadcasts. Most of the letters received were from Hungarians, many of whom indicated that it would be possible for them to purchase the requisite electronic components in Western Europe. Following are excerpts from some typical letters:

(From Hungary): "I heard today your broadcast that you have started the ~~WORLDNET~~ TV programs towards Eastern Europe. Since...in Hungary I teach mathematics and physics, I am very curious about the technology of receiving the ~~WORLDNET~~ programs in Hungary. I would like to receive any and all technical information on the antenna from the very basics...."

(From Hungary): "I was pleased to hear on your programs that you have begun satellite transmissions of TV broadcasts to Hungary. I would like to receive detailed technical information on the receiving capabilities. If possible to obtain some of the technical equipment in West Germany, please let me know the address of some outlets...."

(From Hungary): "...I would like to express my thanks to Congress for providing increased funds for VOA to continue and increase broadcasts and to you for your dedicated work which helps our much suffered countrymen to see the real world and receive some true information on world affairs.... Providing information is a weapon.

The Honorable
William J. Casey
Director
Central Intelligence Agency

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Often it is worth more than the best nuclear or conventional missile. This is why we are so pleased that the satellite programs have begun."

(From Poland): "Today I just learned from the VOA's Polish Division broadcast about your television programs...being possible to receive in Poland. I'm interested in receiving your telecasts but know next to nothing about them, so I ask you to send me full information about them and devices necessary in order to receive your programs."

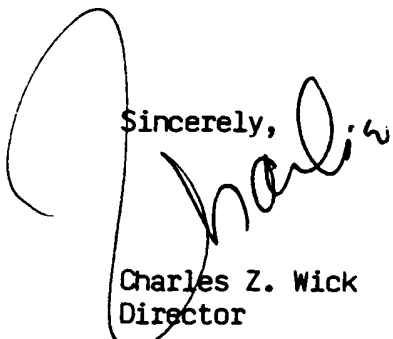
(From Czechoslovakia): "I am your long time listener, and I am interested in 'life on the other side.' That is why I got excited about your news of transmission of your television to Europe. I would be very grateful to you if you could send me instructions on how to build up an antenna which would enable me to receive the Eurovision and the WORLDNET."

Naturally, we were delighted with the tremendous response to our promotional announcements. As you no doubt know, building a satellite antenna is no easy matter, but it is not beyond the ability of a technically competent individual with access to the right equipment. As a result of the queries we received, we put together a brief pamphlet intended to guide the home hobbyist with basic engineering skills who wants to try his hand at home satellite reception. (Because of our concern over possible official reprisals against individuals who receive this kind of material from the USIA through the international mails, we are asking our posts in the region to distribute it on a discretionary basis.) A copy of this pamphlet is attached for your information, along with additional material about our daily European broadcast service.

The opportunity to reach into the closed societies of Eastern Europe through satellite television is tremendously exciting for us. There are even reports that, in the most closed society of all -- the Soviet Union -- intrepid electronics hobbyists are finding ways to monitor Western television broadcasts. Our post in Moscow recently reported contact with a young Soviet engineer who said that "many people" in Moscow were building dishes for satellite reception. As our Hungarian correspondent pointed out, information is indeed a "weapon" in the War of Ideas, and I am confident that, with the help of WORLDNET, this is one war that we are winning.

Best regards.

Sincerely,


Charles Z. Wick
Director

P.S. Any ideas?

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WORLDNET VIA HOME TVRO SYSTEM

I. INTRODUCTION

WORLDNET programs to Europe are currently being transmitted by European Communications Satellites (ECS) in the Ku frequency band. This frequency band covers the spectrum from 10950 to 11700 megahertz (MHz) in the case of the ECS satellites. Reception of these transmissions may be accomplished via a satellite television receive only (TVRO) earth station which detects the signal and converts it to lower input frequencies employed by home television receivers. Pertinent transmission parameters are given in Table I.

II. TVRO SYSTEM COMPONENTS

All TVRO systems, whether used for commercial or home reception, consist of three basic subsystem components. The first component is a parabolic dish shaped antenna reflector, which captures the television microwaves radiated from the satellite. These waves are focused by the antenna dish onto an antenna feed to which is attached the second major subsystem component known as a low noise block downconverter (LNB). The LNB amplifies the weak satellite signal and downconverts it to a lower frequency for transmission via coaxial cable to the third major subsystem component - the satellite receiver. The satellite receiver then further downconverts the microwave signal and demodulates it into the audio and video signal that serves as the input to a standard television monitor or VCR. The television monitor is set for satellite signal reception and tuning in different satellite programs is accomplished using a control on the satellite receiver.

The block diagram in figure 1 illustrates the major components of a TVRO system. System components may be purchased separately or as a kit in electronics stores in many major cities. Assembly of the system consists of mounting and aligning the antenna; bolting the LNB to the feedhorn and the feedhorn to the antenna offset structure generally provided as part of the reflector, connecting the LNB to the satellite receiver by coaxial cable and a similar connection of the satellite receiver to the television monitor. If a standard television receiver is to be used for viewing instead of a monitor, either the tuning circuit must be bypassed by modifying the television receiver, or the output of the satellite receiver must be fed through a modulator to combine the audio and video signals into a radio frequency signal acceptable in frequency to the television receiver antenna input.

III. SIGNAL ACQUISITION

Antenna alignment may be accomplished using a simple magnetic compass and protractor to set the elevation and azimuthal angles of the dish. Since most communication satellites are geostationary, the antenna is first pointed toward the equator or south if in the Northern Hemisphere. The precise elevation and azimuthal angles are computed from the location of the satellite. The ECS 1 F-2 satellite, which carries WORLDNET, is located over the equator at 7 degrees east longitude.